NAT I General Science Mathematics

Sr	Questions	Answers Choice
1	Complex roots of real quadratic equation occur in	A. Nilpotent matrix B. Singular matrix C. Non singular matrix D. Diagonal matrix
2	$1/x^2$ -1 = ? (in case of making partial fraction)	A. Ax +B/x² -1 B. A/x + B/ x- 1 C. A/ x+1 + B/x-1 D. None
3	If a rectangle has an area $81x^2$ and length of 27x. then what is its width?	A. 3x B. 9x C. 3x² D. 9x²
4	The angle a (0° < a< 180°) measured counterclockwise from positive x-axis to a non-horizontal straight line / is called the	A. Rotation B. Inclination C. Radian D. None
5	If C^n_r, P^n_r = 24:1 then r = ?	A. 1 B. 2 C. 3 D. 4
6	Find the geometric mean between 4 and 16	A. 7, 8 B. 14, 4 C. 28, 2 D. 56, 1
7	Any point where f is neither increasing nor decreasing and f(x) =0 at that point is called a	A. Minimum B. Maximum C. Stationary point D. Constant
8	If the angle between two vectors with magnitude 8 and 2 is 60° then their scalar product is	A. 12 B. 8 C. 16 D. 1
9	What is the period of Cot x?	A. 2π B. π C. π/2 D. 4π
10	Which of the following is the equation of a line with slope 0 and passing through the point (4,3)	A. X =4 B. X = -4 C. Y = 3 D. Y = -6
11	If the vector 2i+4j-2k and 2i +6j+xk are perpendicular then x-7	A. 4 B. 8 C. 14 D. 7
12	The cube roots of unity ω = ----------	A. 1-i √-3 / 2 B. -1+i √-3 / 2i C. -1+i √3 / 2 D. 1+i √3 / 2
13	If p and r are integers P = 0, and p ≠ -r, which of the following must be true?	A. p < r B. p > r C. p + r < 0 D. p - r < -0
14	If Cosθ =0, Then θ=	A. nπ/2 B. (2n + 1)π/2 C. (2n - 1)π/2 D. (n ±1)π/2
15	If Cosα = 3/5, Cosβ = 5/13, then	A. Cos(α +β) =33/65 B. Sin(α +β) =56/65 C. sin²(α +β/2) =1/65 D. Cos(α +β) =63/65

16	AreCot $\sqrt{3}$ =?	A. π/2 B. π C. 2π D. π/6
17	The line through the center and perpendicular to the transverse axis is called the	A. Major axis B. Minor axis C. Focal axis D. Conjugate axis
18	The parametric equation of a curve are $x = t^2$, $y = t^2$ then	A. dy/dx =3t/2 B. dy/dx =t⁵ C. dy/dx =5t⁴ D. None
19	The equation of two polynomials P(x)/Q(x) where Q(x) ≠ 0 with no common factor is called	A. 12 B. 1 C. 10 D. -10
20	The sum of the interior angles for a 16 sided polygon is	A. 0 B. ω C. 1 D. 1 / ω